

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A semiconductor device comprising:

a semiconductor substrate, having a main surface, in which first and second trenches are formed in said main surface at a distance away from each other;

first and second isolation insulating films filling in said first and second trenches;

a gate silicon insulating film, formed on said main surface located between said first isolation insulating film and said second isolation insulating film, ~~including silicon~~, having an end portion in a birds beak form which brings into contact with said first isolation insulating film and said second isolation insulating film, respectively, having a first top surface;

a silicon film formed on said gate insulating film, having a thickness exceeding 0 and being less than 50 nm in an intermediate portion between said first isolation insulating film and said second isolation insulating film, and being thinner than said thickness on said end portion; and

a conductive film, including silicon, located on and connected to said silicon film.

2. (Cancelled).

3. (Currently Amended) The semiconductor device according to claim 1, wherein each of said first and second isolation insulating films ~~and~~ has a second top surface, and the distance from said main surface to said second top surface is at least 20nm.

4. (Previously Presented) The semiconductor device according to claim 1, wherein

each of said first and second isolation insulating films has a second top surface, and the distance from said main surface to said second top surface is at least the sum of the thickness of said gate insulating film and said silicon film.

5. (Previously Presented) The semiconductor device according to claim 1, wherein the thickness of said conductive film is at least 50nm and at most 200nm.

6. (Previously Presented) The semiconductor device according to claim 1, wherein each of said first and second isolation insulating films has a second top surface, and said conductive film is formed to cover at least part of said second top surface.

7. (Currently Amended) The semiconductor device according to claim 1, wherein ~~said gate insulating film has a first top surface~~, each of said first and second isolation insulating films has a second top surface, and the distance from said main surface to said second top surface is greater than the distance from said main surface to said first top surface.

8. (Original) The semiconductor device according to claim 1, wherein said silicon film includes phosphorus.

9. (Currently Amended) A semiconductor device comprising:
a semiconductor substrate, having a main surface, in which first and second trenches are formed in said main surface at a distance away from each other;
first and second isolation insulating films filling in said first and second trenches;

a gate silicon insulating film, formed on said main surface located between said first isolation insulating film and said second isolation insulating film, ~~including silicon~~, having an end portion ~~in a birds beak form which brings into contact with said first isolation insulating film and said second isolation insulating film, respectively;~~

a silicon film formed on said gate insulating film, having a thickness exceeding 0 and being less than 50 nm in an intermediate portion between said first isolation insulating film and said second isolation insulating film, and being thinner than said thickness on said end portion; and

~~sidewall insulating films, having surfaces being continuous with the portions of said semiconductor substrate defining the side faces of said first and second trenches, formed between said gate insulating film and each of said first and second insulating films so as to bring into contact with the sidewalls of said silicon film and said gate insulating film.~~

10. (New) The semiconductor device according to claim 1, further comprising shoulder portions formed in the portions of said semiconductor substrate defining the side faces of said first and second trenches.